



Childhood Adenotonsillectomy Does Not Increase the Risk of Being Overweight in Adulthood



Goldbart *et al.* AJRCCM doi: 10.1164/rccm.202311-2175LE (in press)

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Supported by the Israel Science Foundation.

Background

- ✓ Obstructive sleep apnea (OSA) affects 1 to 5% of children.
- ✓ Adenotonsillectomy (AT) is the primary pediatric OSA treatment.

Ehsan et al. AJRCCM 2023

✓ AT in children (and adults on CPAP) may lead to accelerated weight gain in the short term (up to two years).

Despite normalizing respiration and sleep.

✓ Due to reduced breathing work, improved swallowing, poor diet selection, and a sedentary lifestyle.

(Katz et al. Pediatrics. 2014; Tachikawa et al. AJRCCM 2016; Shechter Sleep Med Rev 2017).

✓ The long-term effects of pediatric AT on adulthood BMI are unknown.

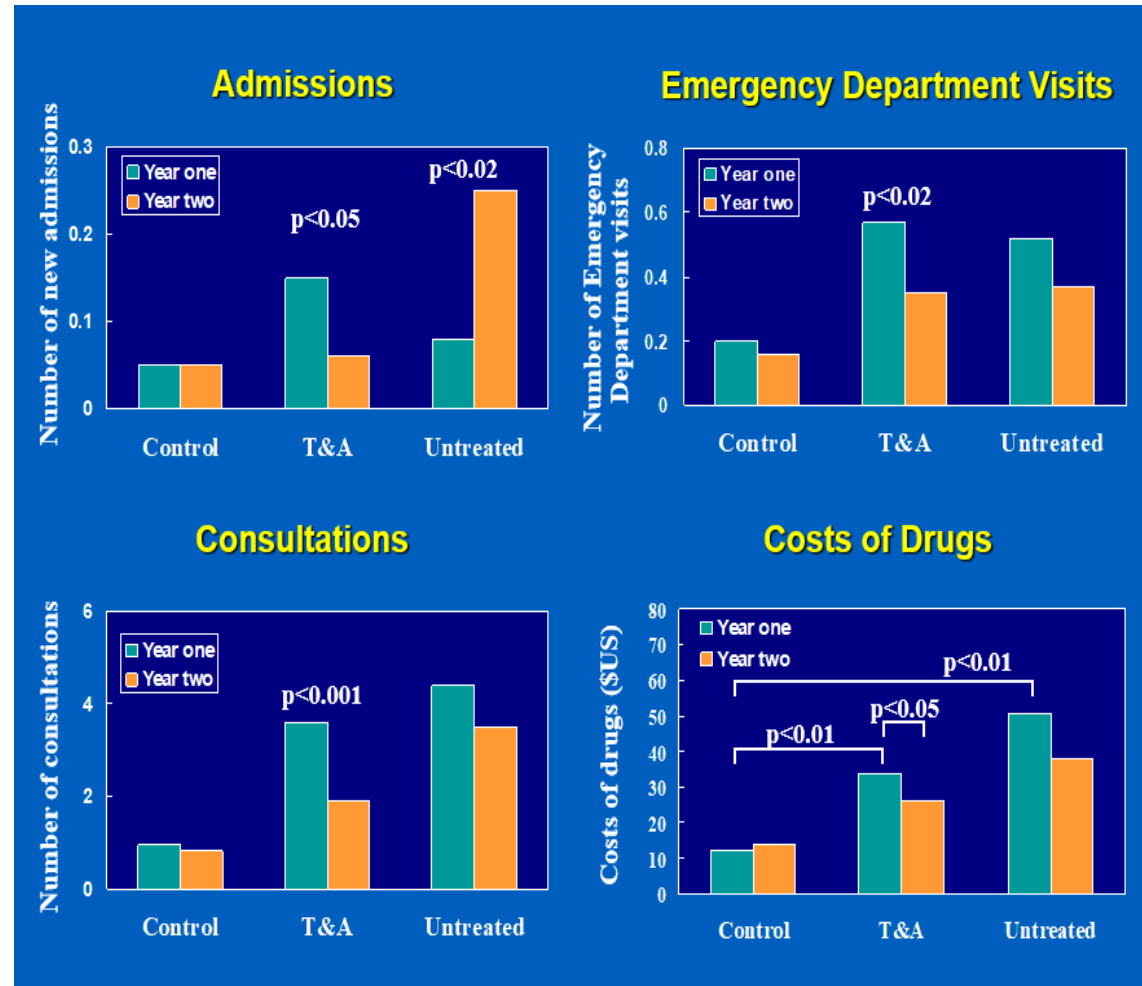
Study aim

To investigate OSA-indicated AT on BMI from childhood to adulthood.

Methods

Initial diagnosis: Children with OSA underwent either AT or watchful waiting between 1998 and 2000.

Tarasiuk A, Simon T, Tal A, Reuveni H.
Adenotonsillectomy in children with obstructive sleep apnea syndrome reduces health care utilization.
Pediatrics 2004; 113(2):351-6



Childhood 1998-2000

Tarasiuk et al Pediatrics 2004



**Initial diagnosis
at childhood**

OSA diagnosis
(n=260)

WW - nasal steroid before
bedtime



WW care
(n=130)

AT (n=130)

Underwent AT
(n=3)

Deceased
(n=1)

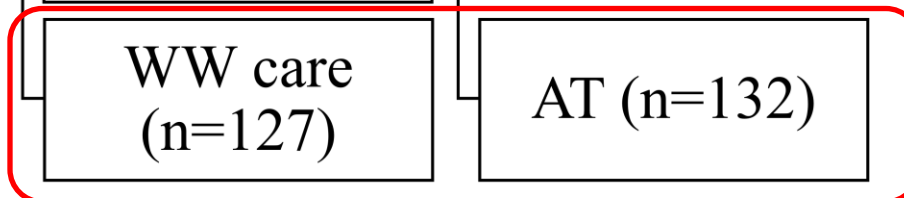
Adulthood June 2023



**Follow-up
at adulthood**

WW care
(n=127)

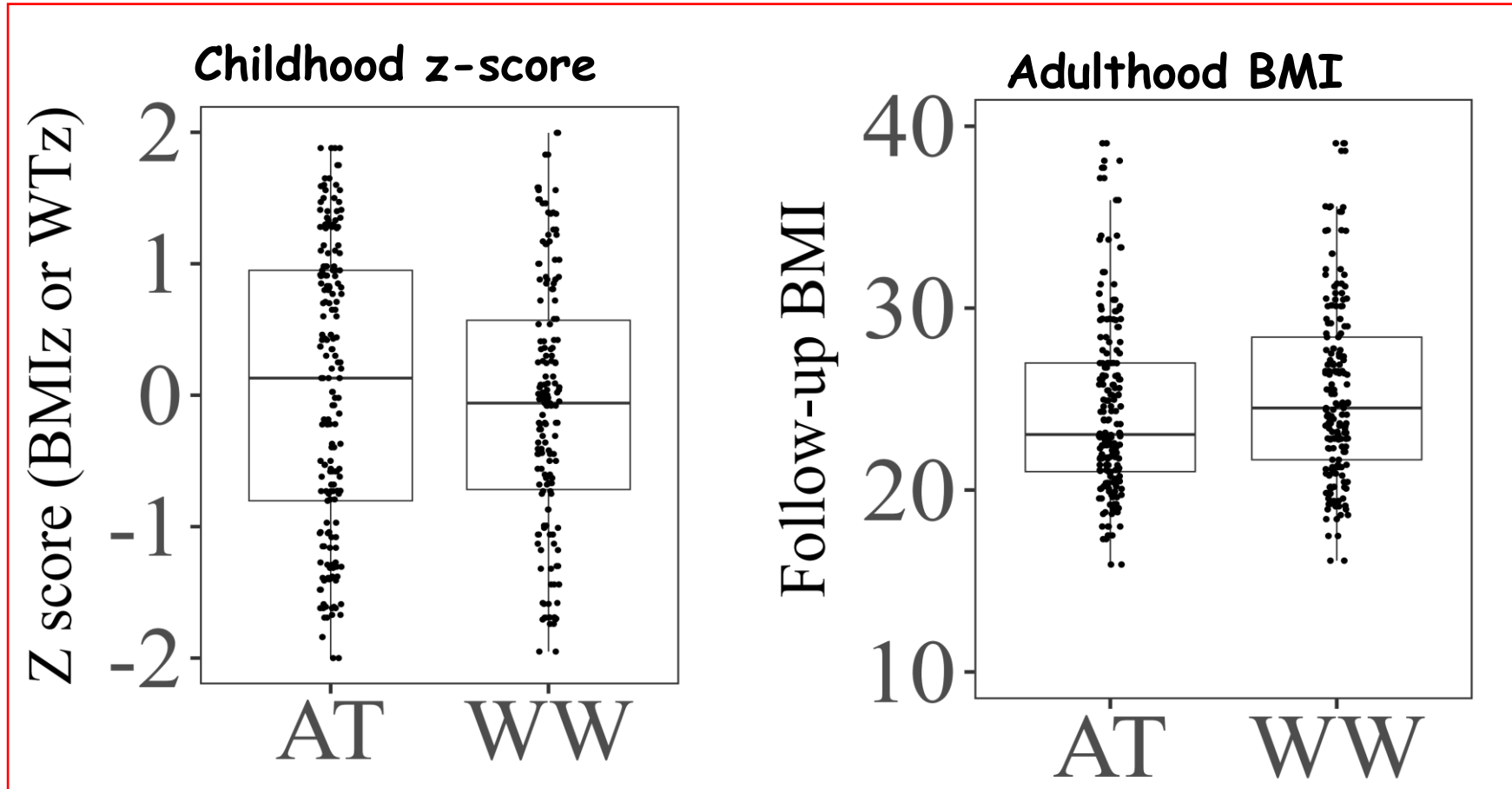
AT (n=132)



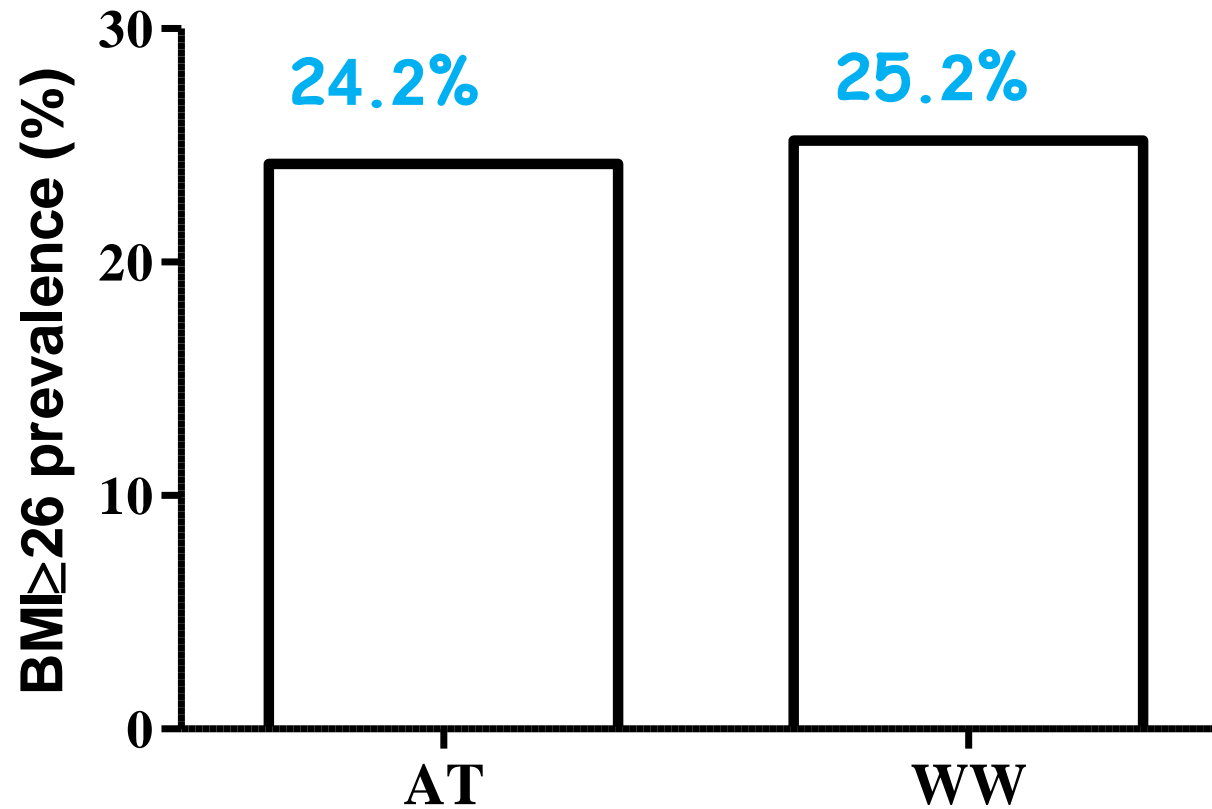
Baseline Assessment

	Watchful waiting n=127	Adenotonsillectomy n=132	p-value
Male, n (%)	85 (67%)	79 (60%)	0.2
Age at diagnosis (years)	6.6 ± 4.1	5.0 ± 3.2	0.001
Socioeconomic score (1-10)			
1-3, n (%)	20 (17%)	25 (20%)	0.034
4-6, n (%)	83 (72%)	99 (78%)	
7-10, n (%)	12 (10%)	3 (2.4%)	
Apnea-hypopnea index (events/hr)	8.7 ± 10.9	9.8 ± 8.1	0.8
Desaturation index ≥3% (events/hr)	2.0 ± 4.2	1.8 ± 3.4	0.19

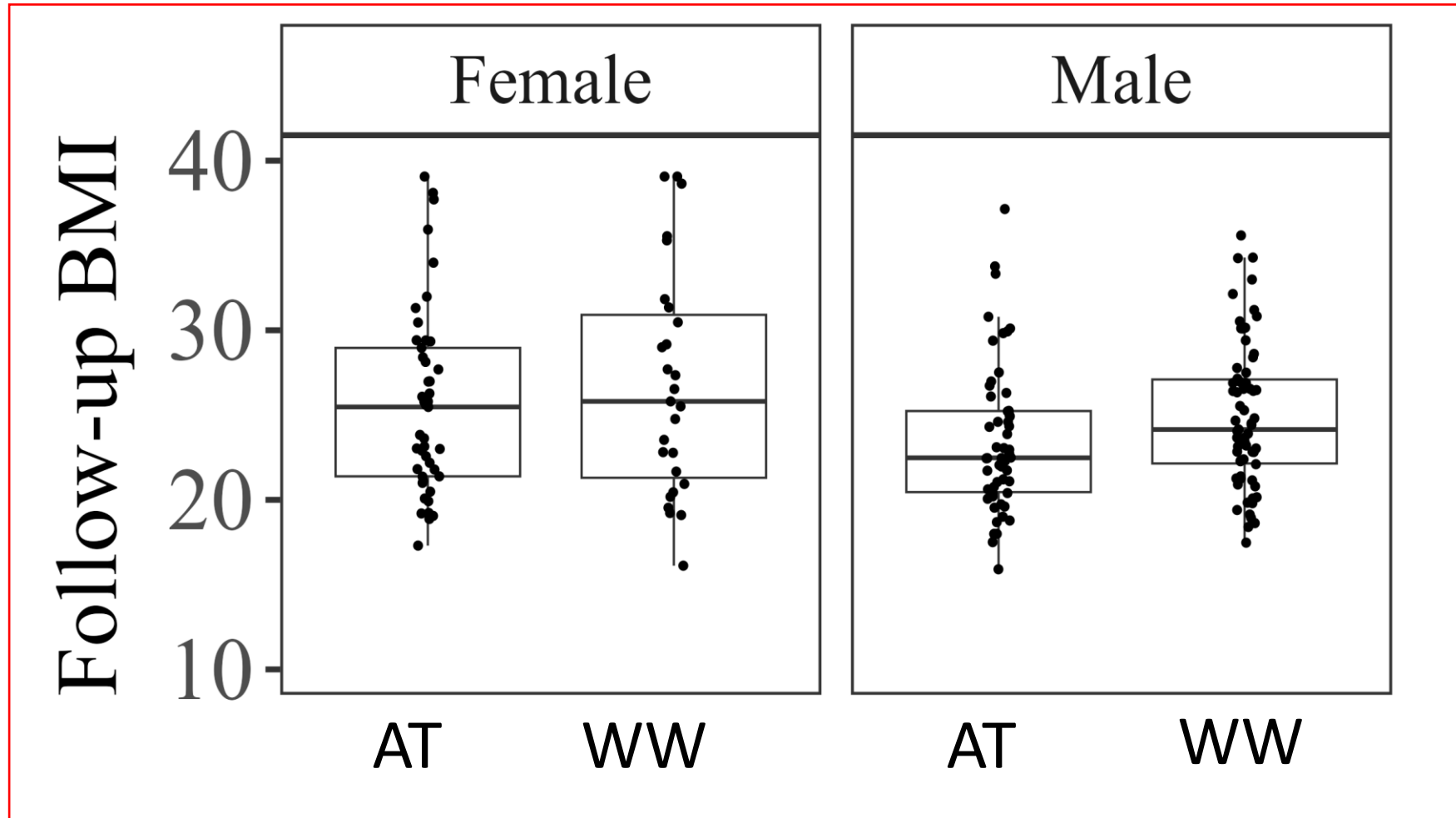
Effect of Adenotonsillectomy on Follow-up BMI



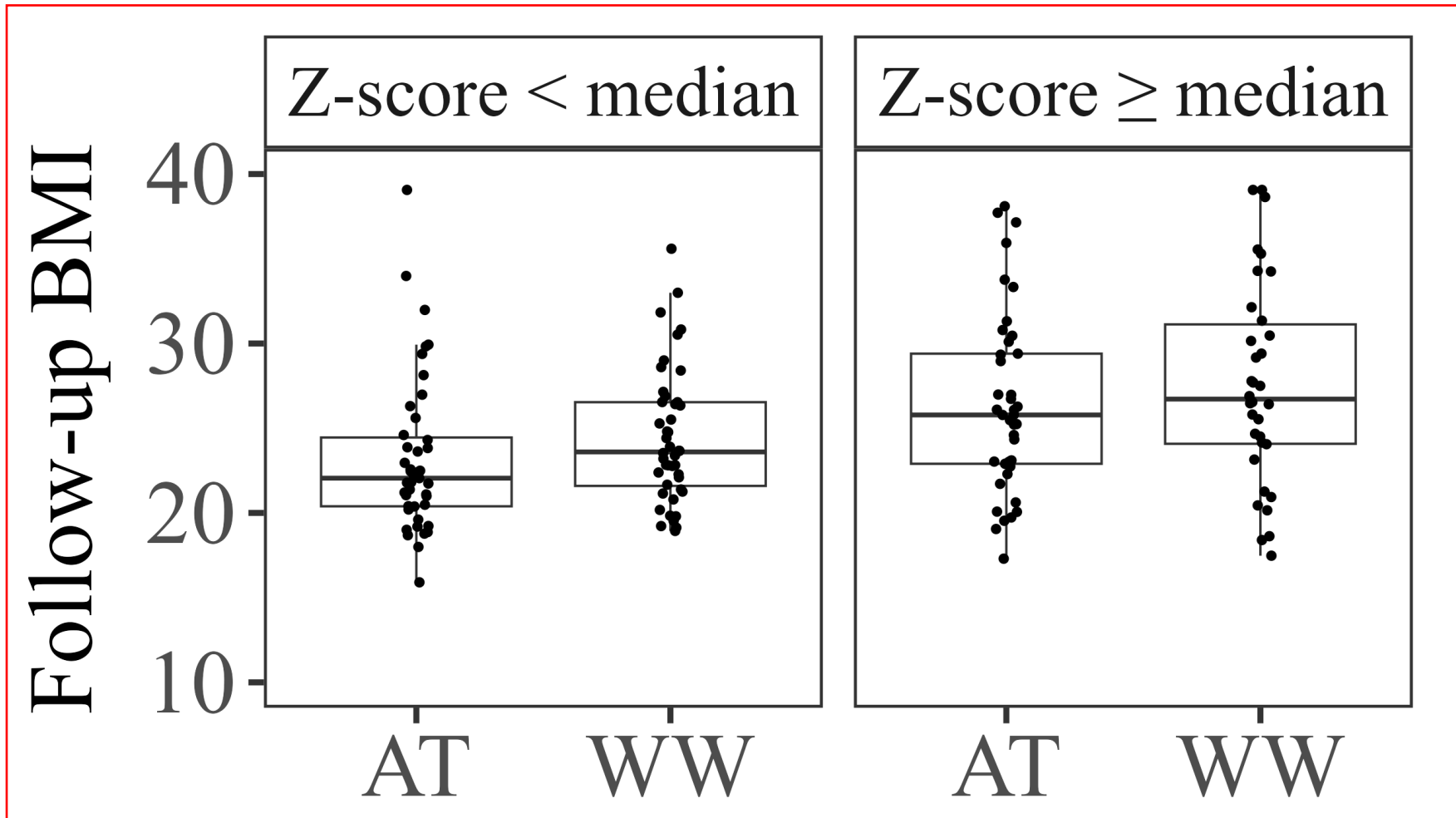
Prevalence of overweight in adulthood (BMI \geq 26)



Follow-up BMI by sex



Follow-up BMI by baseline z-scores



Factors associated with adulthood BMI (Multivariable linear regression)

	Estimate (95% CI)	<i>p</i> -value
Sex (F vs. M)	1.6 (-0.8-3.9)	0.20
AT (AT vs. WW)	-1.7 (-3.7, 0.3)	0.087
Z score (\geq median vs. $<$ median)	4.6 (2.8-6.5)	<0.001
AHI (≥ 5 vs. < 5 event/hr)	1.7 (-0.3-3.6)	0.10
SES (increase from Low to Medium to High)	-0.5 (-2.5-1.5)	0.62
Birth or pregnancy	2.5 (-0.4-5.4)	0.087

WW, watchful waiting; **AT**, adenotonsillectomy; **AHI**, apnea-hypopnea index, **SES** Socioeconomic status.

Summary

✓ CHS electronic registry has data accuracy > 98%.

Represents a real-life clinical practice.

✓ The retrospective nature of this study constitutes an inherent weakness.

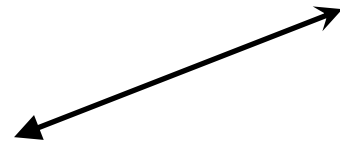
✓ Adenotonsillectomy is not associated with an increased risk of being overweight in adulthood.

✓ We support adenotonsillectomy, emphasizing the lack of association with increased obesity risk in adulthood.

Tarasiuk *et al.* *Pediatrics*. 2004; 113(2):351-6.

Dagan *et al.* *N Engl J Med*. 2021; 384(15):1412-23.

Thank you



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